Remarks / Arguments

Claims 1-13 are pending in this application. Claims 1, 5, and 6 have been amended. No new matter has been added.

Applicants express their appreciation to the examiner for not making his rejections final, but continuing to work with them to advance the prosecution of this case.

Rejection under 35 U.S.C. §102:

In the official action, the examiner has rejected claims 1, 2, 5, 7, 8, 10, and 11 as anticipated by the disclosure of the Giraud reference (U. S. patent 5,846,854). As an initial observation, the applicants respond that the examiner appears not to understand fully that the electrically conductive layer serving as the working surface of an electrode, and the pattern of strips or grid of metallic conductive material which is in contact with that electrically conductive surface layer of the electrode are two separate elements of the present invention.

Regarding claim 1, the exmainer maintains that Fig. 11 of the reference discloses an electrochromic display element containing an electrochromic medium 26 between two electrode surfaces 23, in which at least one of the electrode surfaces is transparent (referring to col. 8, lines 44-45) and has a transparent electrically conductive layer (referring to col 8, lines 49-52), characterized in that the at least one transparent electrode surface has a periodic or aperiodic pattern of strips or grid made of metallic conductive material (referring to col. 8, lines 44-49). Most of this language is taken from the applicants' claim 1.

Fig. 11 of the reference is discussed in the reference starting at col. 11, line 36. Each of 2 glass substrates 22 carries a circuit of multiple electrodes 23 which face each other, and there is a layer of luninophors between them. At col. 11, lines 46-52, the reference explains that the structure of electrodes 23 is analogous to that of the "columns" of the screen shown in Fig. 2; in other words, the electrodes consist of parallel conducting strips 27, each of which is in electrical contact with a conducting part 28 filling a groove 29 in the substrate. Thus, <u>if</u> Fig. 11 shows <u>multiple</u> display elements, each made up of two opposing electrodes 23 in the form of conducting strips 27, then <u>neither</u> electrode of any display element is associated with a pattern of strips or

grid of conducting material as presently claimed. Alternatively, if Fig. 11 illustrates a single display element in which each of the 2 opposing electrodes consist of multiple facing conductive strips 27, then neither electrode has "a" transparent electrically conductive layer (because the conductive layer is split into strips). Fig. 11 of the reference does not anticipate applicants' claim 1.

Fig. 12 of the '854 reference is discussed at col. 12, lines 4-10. This figure "shows another variant embodiment of glazing with variable properties, which differs from the preceding embodiment (Fig. 11) in that the strips 27 are replaced by continuous layers, permitting only one equipotential voltage control on each layer 27". In this and the other embodiments, the conducting parts 28 are located in grooves 29 in the supporting plates.

Applicants have now amended claim 1 to place it in the more usual U.S. form, and to clarify that each electrode bears a continuous electrically conductive layer, and that at least the transparent electrode bears a periodic or aperiodic pattern of strips or grid of metallic conductive material located outside the supporting substrate (on or under the layer of electrically conductive material). It is deemed that claim 1 as presently amended is not anticipated by the disclosure of the '854 reference.

Regarding claim 2, the examiner refers to col. 11, lines 36-44 of the '854 reference for a teaching that the electrochromic medium is a solution, gel, or a solid. It is not clear that the cited portion of the reference in fact teaches this, as it states, "....the electrodes 23 being disposed facing each other with the interposition of a luminophors layer 26, for example one comprising in a known way a transition metal salt, such as WO_3 (electrochromic layer) or liquid crystals dispersed in a polymer (PDLC)."

Regarding claim 5, the examiner refers to Fig. 11, element 23; col. 8, lines 44-45 for the teaching that both electrode surfaces have a periodic or aperiodic pattern of strips or grids made of metallic conductive material. This portion of the text refers to Fig. 2, which discloses an electrochromic matrix screen 1 (a pixel display) in which the electrodes 3 are in the form of conducting strips 7, each of which is in electrical contact with a supplementary current supply colunn 8 which is set in a groove 9 in the substrate. Each electrode strip is in contact with only one supplementary current supply column 8. The counter electrodes 5 are also in the form of

conducting strips which are parallel to each other and oriented perpendicular to the conducting electrode strips 7. The display works by applying an electrical potential between a conducting strip 7 (and its supplemental current supply column 8) and a counter electrode line 5, to generate a color in the electrochromic medium at their intersection. The cited portion of the reference does not disclose an electrode having an electrically conductive layer and a periodic or aperiodic pattern of strips or grid of metallic conductive material as asserted by the examiner, and does not disclose the presently claimed display element.

Regarding claim 7, the examiner refers to column 8, lines 44-46 for a disclosure of an electrochromic display element in which the pattern of strips or grid of metallic conductive material is aperiodic on at least one electrode. Column 8, lines 44-49 of the reference text refers to Fig. 2 and states, "The electrodes 3 are in the form of conducting strips 7, also called "columns" of the screen, are transparent and parallel and have a thickness varying from a few hundred to a few thousand angstroms, with a width varying from 200 to 500 μm, separated by intervals of 20 to 100 μm, which represent what is known as the "black matrix";.....". The cited portion of the reference text does not disclose an aperiodic pattern of strips or grid of conductive material in contact with an electrically conductive layer on any electrode.

Regarding claim 8, the examiner refers to Fig. 11 and the distance between strips in the figure for a conclusion that the reference discloses a display element in which the periodicity of the pattern of strips on at least one electrode is restricted to a very short distance. Fig. 11 shows multiple electrodes 23 in the form of strips 27, and these can be close together. However, as explained above, each strip electrode in Fig. 11 is connected to only a single reinforcing conducting part 28, and not to any periodic or aperiodic pattern of strips or grid of metallic conductive material. Applicant's claim 8 deals with the periodicity of the pattern of strips or grid which is in contact with the conductive layer which is the working part of the electrode surface. The cited portion of the reference says nothing about periodicity of a pattern of strips or grid in contact with the conductive layer; it does not show any such pattern of strips or grid of conductive material in contact with the conductive layer.

Regarding claim 10, the examiner refers to col. 8, lines 44-54 for a teaching that the claimed pattern of strips or grid of metallic conductive material is deposited on the electrically

conductive layer. The cited portion of the reference refers to Fig. 2, which does not show any pattern of strips or grid in contact with any conductive layer, and does not say anything about where any such a pattern of strips or grid should be located relative to the conductive layer of the electrode.

Regarding claim 11, the examiner refers to Fig. 11, col. 8, lines 49-54 for a teaching that the claimed electrically conductive layer is deposited on the pattern of strips or grid. The cited portion of the reference refers to Fig. 11, which does not show any pattern of strips or grid in contact with any electrically conductive layer, and does not say anything about where a conductive layer should be located relative to the pattern of strips or grid of metallic conductive material.

The dependent claims should be found to be allowable when independent claim 1 has been found to be allowable.

Rejection under 35 U. S. C. §103

The examiner has rejected claims 3 and 4 under 35 U. S. C. §103 as being unpatentable over Giraud '854 in view of Forgette '625, on grounds that the '625 reference teaches the claimed redox substances (referring to col. 2, lines 40-53; col. 3, lines 3-44; and col.3, lines 38-44).

The cited portions of the reference deal with electrochromic media generally and how they work in the apparatus of the invention. The details of the electrochromic media recited in applicants' claim 4 are not discussed. Claims 3 and 4 are dependent claims referring to independent claim 1, and should be allowable once claim 1 has been found to be allowable.

The examiner has not cited any reference which discloses the display element of claim 1 as now amended, or any reference or combination of references which suggests it. The remaining claims are all dependent claims which should be allowable once claim 1 is allowable.

In view of the above amendments and arguments, this application is deemed to be in condition for allowance, and allowance is accordingly requested.

Respectfully submitted,

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